

## NEW OR LITTLE KNOWN POGONINAE (COLEOPTERA: CARABIDAE) FROM LAKE EYRE, SOUTH AUSTRALIA

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### Abstract

*Pogonus grossi* and *P. gilesi* spp. n. are described from Lake Eyre, South Australia and are compared with the other four known Australian members of the genus.

### Introduction

The Pogoninae form a widespread but small and closely knit group of carabid beetles, all of which appear to be confined, in nature, to saline habitats. Many of the exotic species are restricted to littoral localities but in Australia, these beetles occur mostly about the margins of inland salt lakes and salt pans, sometimes far removed from the coast.

The four described Australian pogonines are currently placed (Csiki, 1928) in the principal and cosmopolitan genus *Pogonus* Nicolai, but they are certainly diverse in form and in pigmentation and some may ultimately need to be transferred to other genera. However, a satisfactory classification could result only from a revision of the entire subfamily, with adequate consideration of the widely scattered exotic species, many of which are not readily available to the local worker. Moreover, the Australian pogonines themselves are probably still very imperfectly known and it would appear pointless to contemplate a generic reclassification at this stage.

The present paper deals with a large collection from Lake Eyre, South Australia, and made available for study by the South Australian Museum. This extensive material, which represents the combined results from several expeditions, includes many specimens of *Pogonus hypharpagoides* Sloane, a species hitherto known only from the unique type (which I have examined) from Lake Callabonna, S.A. (Sloane, 1895). Also well represented are the two new species described below. Most of the specimens of these species were taken at light by the lake shore and it seems quite extraordinary that this one locality should support three large populations of obviously mobile, yet closely related and stenotopic beetles.

### Diagnosis of the Pogoninae

Small halophile carabid beetles with the following character states:—

Anterior tibiae with one spur displaced to the proximal side of the cleaning organ, mesepimera not attaining the coxa cavities; two supraorbital setae on each side of head; frontal furrows short or obsolescent; mandibles with a seta in the scrobe; antennae with two basal segments glabrous; elytra with no obvious inner plica; male anterior tarsi with two basal segments dilatate and inwardly dentate, the adhesive vestiture squamose; parameres styloid, the left much larger than the right, the apices setose.

### *Pogonus grossi* sp. n. (Figs 1, 2, 8)

Elongate, convex, subcylindrical; largely brownish-testaceous but eyes and mandibles dark brown to black; hindwings fully developed. Head rather small, convex, impunctate, shining; eyes small, not very prominent, enclosed behind

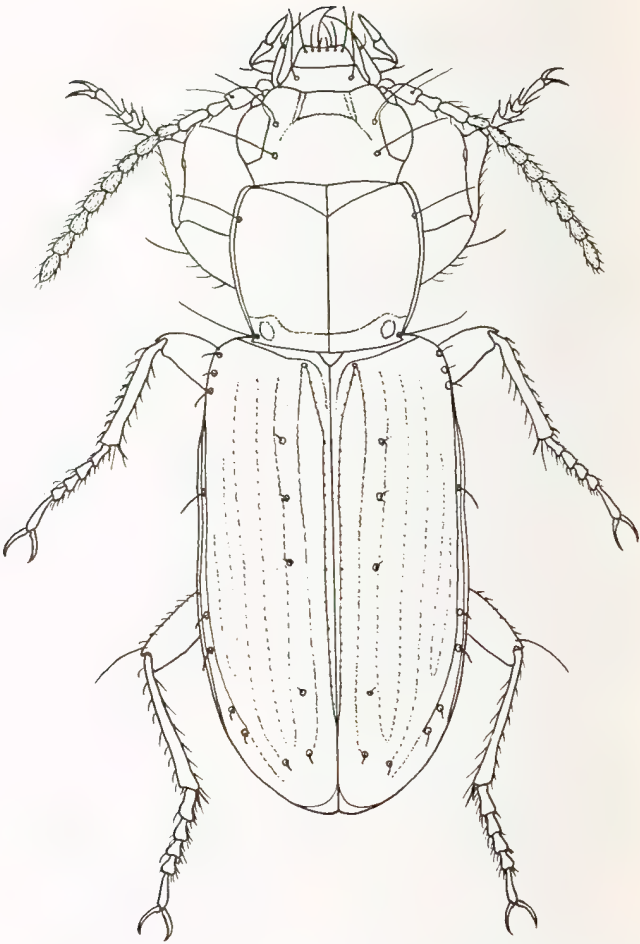


FIG. 1. *Pogonus grossi* sp. n., paratype ♂ (natural length: 6.2 mm).

in lightly swollen orbits; frontal furrows straight, rather deep; mandibles short; antennae short, reaching backwards only to base of pronotum, the outer segments increasingly broad and compressed. Pronotum lightly transverse (1.7 x 1.5 mm in holotype), a little broader at apex than at base, convex, shining, but anterior margin and basal impressions strigose; anterior margin sinuate, posterior margin arcuate; sides lightly rounded on front half, then obliquely contracted to base, minutely sinuate at hind angles; front angles not prominent but well marked; hind angles subdentiform, bearing the posterior marginal seta; basal impressions rather large and deep, connected by a shallow, rugose impression; marginal channel narrow in front, expanded before hind angles; median line well impressed on disc. Elytra elongate, subparallel, convex, shagreened and lightly striate; striae distinctly punctate; humeri rounded but well marked; third intervals with 3-5 small pores, set near the third striae; legs short; male anterior tarsi lightly expanded. Aedeagus weakly sclerotised, the median lobe

membranous over much of dorsum and broadly compressed in lateral view.

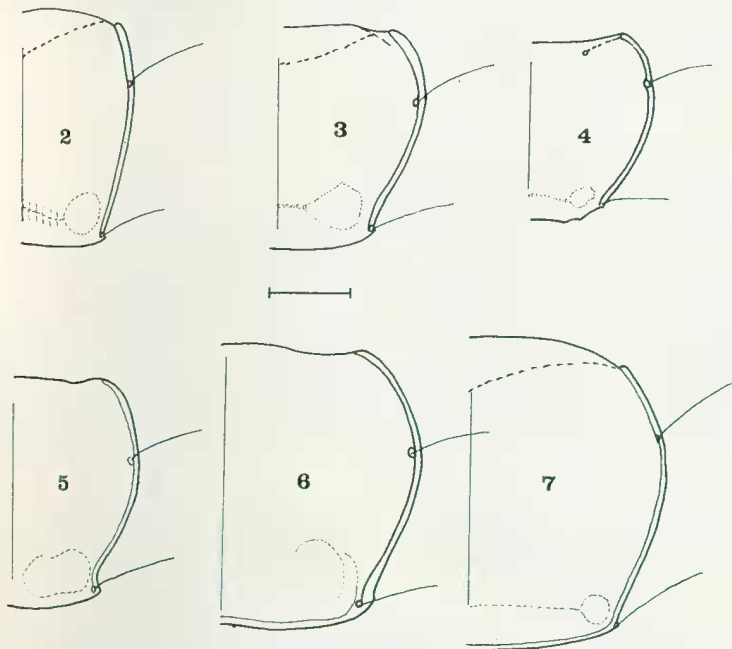
Length: 5.2 - 6.4 mm; maximum width: 1.6 - 2.1 mm.

*Types.* SOUTH AUSTRALIA: *Holotype* ♂, Lake Eyre, south shore, 23.iv.55, G. F. Gross, in the South Australian Museum, Adelaide. *Paratypes*, 27, same data as holotype; 7, Lake Eyre, north shore, surface of Madigan Gulf, in bait traps, 2-7.xi.66, G. F. Gross, in the South Australian Museum, the Australian National Insect Collection (Canberra) and the author's collection. Paratypes include both sexes but some cannot readily be sexed without remounting.

*P. grossi* is easily distinguished from other Australian pogonines by its combination of pale colour and narrow, cylindrical form and in these respects it approaches certain exotic species currently placed in the genus (or subgenus) *Syrdenus* Chaudoir, although the type species of the latter (*filiformis* Dejean, of the Mediterranean region) is certainly more extreme in the second character. Species of *Syrdenus* are apparently more fossorial in habits than are those of *Pogonus sensu stricto*, but the existence of so many intermediates, in both form and state of depigmentation (with *grossi* now bridging the last obvious gap) militates against retention of Chaudoir's taxon as a full genus.

*Pogonus gilesi* sp. n. (Figs 3, 9)

Rather broad, subdepressed; colour as in *grossi*; hindwings fully developed. Head of average size, rather depressed, impunctate, shining; eyes large and prominent, not enclosed behind; frontal furrows obsolete; mandibles longer



FIGS 2-7. *Pogonus* spp., pronota, right side: (2) *grossi* sp. n.; (3) *gilesi* sp. n.; (4) *zietzi* Sloane; (5) *australis* Chaudoir; (6) *cardiotrachelus* Chaudoir; (7) *hypharpagoides* Sloane. (Scale line = 0.5 mm).

than in *grossi* and more sharply pointed; antennae slender, extending backwards beyond the humeri, the outer segments only slightly expanded. Pronotum transverse (1.8 x 1.5 mm in holotype), cordate, depressed, shining; anterior margin lightly emarginate; posterior margin arcuate; sides slightly curved on front third, then obliquely contracted and slightly sinuate just before the posterior marginal seta; anterior angles rounded but well marked; posterior angles obtuse but rather prominent, bearing the posterior marginal seta; basal impressions linear, connected by a smooth transverse impression; marginal channel narrow throughout; median line lightly impressed on disc. Elytra broad, rather depressed, broadest about the hind third; striae fine but even, lightly crenulate; third intervals with 3 small pores, set against the third striae; legs proportionately longer and more slender than in *grossi*. Aedeagus weakly sclerotised; right paramere with only a single seta.

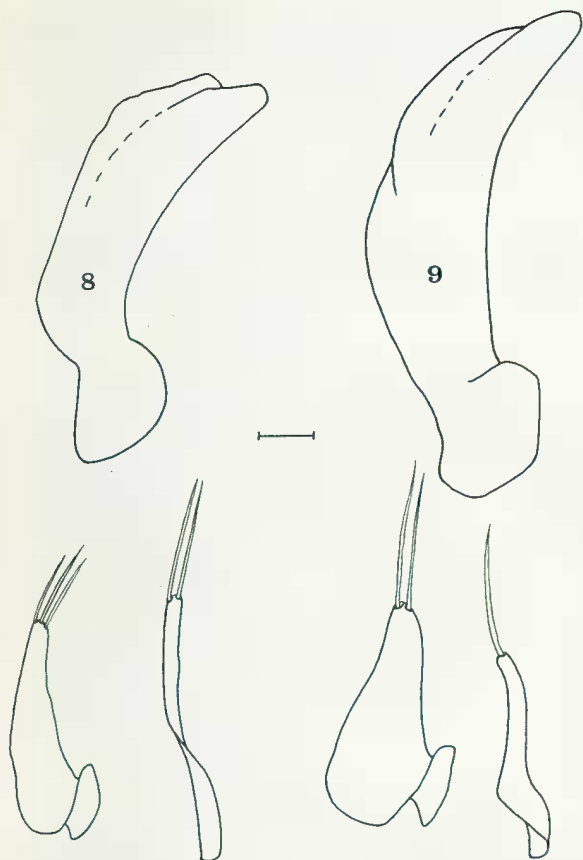
Length: 6.1 - 8.4 mm; maximum width: 2.1 - 3.3 mm.

*Types.* SOUTH AUSTRALIA: *Holotype* ♂, Lake Eyre, north shore, Madigan Gulf, at light, 6.xi.55, E. T. Giles, in the South Australian Museum. *Paratypes* (both sexes), 35, same data as holotype; 17, same locality and captor but various dates in 1955; 2, Cooper Crossing, 12.xi.55, E. T. Giles; 1, Clayton Crossing, 13.xi.55, E. T. Giles: in the South Australian Museum, The Australian National Insect Collection and the author's collection.

This new species may be distinguished from the (usually) smaller *grossi* by its broad, depressed form and longer, more slender legs and antennae. *P. hypharpagoides* Sloane is more heavily built than either of the new species and has a relatively massive head.

#### Key to the Australian species of *Pogonus*

- |   |   |                                 |
|---|---|---------------------------------|
| 1 | Fully pigmented, metallic species . . . . .   | 2                               |
| - | Largely pale, depigmented species . . . . .   | 3                               |
| 2 | Larger (length 7.5 - 8.5 mm); sides of pronotum (Fig. 6) less sinuate before hind angles, the submarginal ridge beside these angles well marked . . . . . | <i>cardiotrachelus</i> Chaudoir |
| - | Smaller (length 6.5 - 6.7 mm); sides of pronotum (Fig. 5) more sinuate; submarginal ridge obsolescent . . . . .   | <i>australis</i> Chaudoir       |
| 3 | Bicolorous: head and pronotum dark brown, elytra pale; form very depressed; base of pronotum lobate (Fig. 4); length c. 6.5 mm . . . . .                  | <i>zietzi</i> Sloane            |
| - | Largely pale testaceous; less depressed or very convex; base of pronotum truncate (Figs 2, 3, 7) . . . . .  | 4                               |
| 4 | Elytra broad, subdepressed; sides of pronotum distinctly sinuate (Fig. 3); length 6.1 - 8.4 mm . . . . .  | <i>gilesi</i> sp. n.            |
| - | Elytra narrow, convex, subcylindrical; sides of pronotum not or scarcely sinuate (Figs 2, 7) . . . . .  | 5                               |
| 5 | Larger (length 7.2 - 8.1 mm); form massive, head large . . . . .  | <i>hypharpagoides</i> Sln.      |
| - | Smaller (length 5.2 - 6.4 mm); form slender and more parallel; head small . . . . .   | <i>grossi</i> sp. n.            |



FIGS 8, 9. *Pogonus* spp, aedeagi in left lateral view, with parameres detached: (8) *grossi* sp. n.; (9) *gilesi* sp. n. (Scale line = 0.1 mm).

Unfortunately, none of these species has been collected sufficiently widely to give an adequate impression of its geographical distribution. However, I have examined specimens of both metallic species (*cardiotrachelus* and *australis*) from Victoria and from south-western Australia, although their northern (? coastal) limits remain unknown. The depigmented species are apparently confined to saline habitats in the inland arid region.

#### Acknowledgements

I am indebted to my colleague, Dr E. B. Britton for drawing my attention to the new species and to Dr E. G. Matthews for the loan of the material upon which they are based.

#### References

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 Sloane, T. G., 1895. Notes on Carabidae from Lake Callabonna, central Australia. *Trans. R. Soc. S. Aust.* 19: 124-137.